

# Safety Data Sheet

Oxygen (0.0001 - 19.49%), Nitrogen (Balance)

In Case of Emergency: Chemtrec 800-424-9300

## Section 1: Product and Company Identification

**Gas and Supply**

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 Broussard, LA 70518  
 877-441-7311  
 Fax: 337-839-8235  
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Product Code: Oxygen (0.0001 - 19.49%), Nitrogen (Balance)

**Synonyms:**

**Recommended Use:** Synthetic/Analytical chemistry

**Usage Restrictions:**

## Section 2: Hazards Identification



**Warning**

**Hazard Classification:**

Gases Under Pressure

**Hazard Statements:**

Contains gas under pressure; may explode if heated

**Precautionary Statements**

**Storage:**

Protect from sunlight.  
 Store in well-ventilated place.

## Section 3: Composition/Information on Ingredients

|          | CAS #     | Concentration   |
|----------|-----------|-----------------|
| Oxygen   | 7782-44-7 | 0.0001 - 19.49% |
| Nitrogen | 7727-37-9 | Balance         |

|          | Chemical Substance       | Chemical Family | Trade Names   |
|----------|--------------------------|-----------------|---|
| Oxygen   | OXYGEN, COMPRESSED GAS   | Inorganic gases | OXYGEN; DIOXYGEN; MOLECULAR OXYGEN; OXYGEN MOLECULE; PURE OXYGEN; UN 1072; O2   |
| Nitrogen | NITROGEN, COMPRESSED GAS | Inorganic gases | DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2 |

## Section 4: First Aid Measures

|                 | Skin Contact                           | Eye Contact                      | Ingestion  | Inhalation   | Note to Physicians               |
|-----------------|--|----------------------------------|--|--|----------------------------------|
| <b>Oxygen</b>   | None expected                          | None expected                    | Not likely route of exposure                           | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.  | None                             |
| <b>Nitrogen</b> | Wash exposed skin with soap and water. | Flush eyes with plenty of water. | If a large amount is swallowed, get medical attention. | If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention. | For inhalation, consider oxygen. |

## Section 5: Fire Fighting Measures

|                 | Suitable Extinguishing Media  | Products of Combustion     | Protection of Firefighters   |
|-----------------|---|----------------------------|--|
| <b>Oxygen</b>   | Non-flammable. Use extinguishing agent appropriate for the material which is burning. Use water in large quantities for fires involving oxygen. | Oxides of burning material | <ul style="list-style-type: none"> <li>▪ Respiratory protection may be needed for frequent or heavy exposure.</li> <li>▪ None</li> </ul> |
| <b>Nitrogen</b> | Non-flammable. Use suitable extinguishing media for surrounding fire. Cylinders may rupture or explode if exposed to heat.                      | Non-flammable              | <ul style="list-style-type: none"> <li>▪ Respiratory protection may be needed for frequent or heavy exposure.</li> </ul>                 |

## Section 6: Accidental Release Measures

|                 | Personal Precautions   | Environmental Precautions                           | Methods for Containment                      |
|-----------------|--|---|--|
| <b>Oxygen</b>   | Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. | Avoid contact with combustible materials.           | Stop leak if possible without personal risk. |
| <b>Nitrogen</b> | Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.   | No significant effects from contamination expected. | Stop leak if possible without personal risk. |

|                 | Methods for Cleanup     | Other Information |
|-----------------|-------------------------|-------------------|
| <b>Oxygen</b>   | Stop leak and ventilate | None              |
| <b>Nitrogen</b> | N/A                     | N/A               |

## Section 7: Handling and Storage

|                 | Handling  | Storage                                      |
|-----------------|---|--|
| <b>Oxygen</b>   | Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. | Keep separated from incompatible substances. |
| <b>Nitrogen</b> | Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. | Keep separated from incompatible substances. |

## Section 8: Exposure Controls/Personal Protection

|                 | Exposure Guidelines  |
|-----------------|--|
| <b>Oxygen</b>   | OXYGEN, COMPRESSED GAS: No occupational exposure limits established. |
| <b>Nitrogen</b> | NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)        |

### Engineering Controls

Handle only in fully enclosed systems or with adequate ventilation.

|                 | Eye Protection                                | Skin Protection                      | Respiratory Protection   |
|-----------------|---|--------------------------------------|--|
| <b>Oxygen</b>   | Eye protection not required, but recommended. | Protective clothing is not required. | Respiratory protection may be needed for frequent or heavy exposure. |
| <b>Nitrogen</b> | Eye protection not required, but recommended. | Protective clothing is not required. | Respiratory protection may be needed for frequent or heavy exposure. |

## General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

|          | Physical State | Appearance | Color     | Change in Appearance | Physical Form | Odor     | Taste     |
|----------|----------------|------------|-----------|----------------------|---------------|----------|-----------|
| Oxygen   | Gas            | Clear      | Colorless | N/A                  | Gas           | Odorless | Tasteless |
| Nitrogen | Gas            | Clear      | Colorless | N/A                  | Gas           | Odorless | Tasteless |

|          | Flash Point   | Flammability  | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|----------|---------------|---------------|-----------------------|--------------------------|------------------------|------------------------|
| Oxygen   | Not flammable | Not available | Not available         | Nonflammable             | Nonflammable           | Nonflammable           |
| Nitrogen | Not flammable | Not available | Not available         | Nonflammable             | Nonflammable           | Nonflammable           |

|          | Boiling Point   | Freezing Point  | Vapor Pressure    | Vapor Density | Specific Gravity | Water Solubility | pH             | Odor Threshold | Evaporation Rate | Viscosity         |
|----------|-----------------|-----------------|-------------------|---------------|------------------|------------------|----------------|----------------|------------------|-------------------|
| Oxygen   | -297 F (-183 C) | -360 F (-218 C) | 760 mmHg @ -183 C | 1.1 (Air=1)   | Not applicable   | 3.2% @ 25 C      | Not applicable | Not available  | Not applicable   | 0.02075 cP @ 25 C |
| Nitrogen | -321 F (-196 C) | -346 F (-210 C) | 760 mmHg @ -196 C | 0.967 (Air=1) | Not applicable   | 1.6% @ 20 C      | Not applicable | Not available  | Not applicable   | 0.01787 cP @ 27 C |

|          | Molecular Weight | Molecular Formula | Density          | Weight per Gallon | Volatility by Volume | Volatility     | Solvent Solubility      |
|----------|------------------|-------------------|------------------|-------------------|----------------------|----------------|-------------------------|
| Oxygen   | 31.9988          | O2                | 1.309 g/L @ 25 C | Not available     | Not applicable       | Not applicable | Soluble: Alcohol        |
| Nitrogen | 28.0134          | N2                | 1.2506 g/L       | Not available     | 100%                 | 1              | Soluble: Liquid ammonia |

## Section 10: Stability and Reactivity

|          | Stability                                   | Conditions to Avoid                         | Incompatible Materials  |
|----------|---|---|---|
| Oxygen   | Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | Combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials, alkaline earth and alkali metals |
| Nitrogen | Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | Metals, oxidizing materials   |

|          | Hazardous Decomposition Products     | Possibility of Hazardous Reactions |
|----------|--------------------------------------|------------------------------------|
| Oxygen   | Miscellaneous decomposition products | Will not polymerize.               |
| Nitrogen | Oxides of nitrogen                   | Will not polymerize.               |

## Section 11: Toxicology Information

### Acute Effects

|          | Oral LD50       | Dermal LD50     | Inhalation   |
|----------|-----------------|-----------------|--|
| Oxygen   | Not established | Not established | Irritation, changes in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, disorientation, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions |
| Nitrogen | Not available   | Not available   | Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma   |

|        | Eye Irritation                                | Skin Irritation                               | Sensitization                           |
|--------|---|---|---|
| Oxygen | No information on significant adverse effects | No information on significant adverse effects | No significant target effects reported. |

|                 | Eye Irritation  | Skin Irritation                               | Sensitization        |
|-----------------|---|---|----------------------|
| <b>Nitrogen</b> | Contact with rapidly expanding gas may cause burns or frostbite | No information on significant adverse effects | Difficulty breathing |

### Chronic Effects

|                 | Carcinogenicity | Mutagenicity  | Reproductive Effects | Developmental Effects |
|-----------------|-----------------|---------------|----------------------|-----------------------|
| <b>Oxygen</b>   | Not known.      | Available.    | Available.           | No data               |
| <b>Nitrogen</b> | Not hazardous   | Not available | Not available        | No data               |

## Section 12: Ecological Information

### Fate and Transport

|                 | Eco toxicity  | Persistence / Degradability | Bioaccumulation / Accumulation | Mobility in Environment |
|-----------------|---|-----------------------------|--------------------------------|-------------------------|
| <b>Oxygen</b>   | Fish toxicity: Not available<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>Other toxicity: Not available | Not available               | Low bioaccumulation            | Not available           |
| <b>Nitrogen</b> | Fish toxicity: Not available<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>Other toxicity: Not available | Not available               | Not available                  | Not available           |

## Section 13: Disposal Considerations

|                 |   |
|-----------------|---|
| <b>Oxygen</b>   | Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. |
| <b>Nitrogen</b> | Dispose in accordance with all applicable regulations.  |

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

#### DOT Information For This Mixture

|                           |   |
|---------------------------|---|
| <b>Shipping Name</b>      | Compressed gas, n.o.s. (Nitrogen, Oxygen) |
| <b>UN Number</b>          | UN1956                                    |
| <b>Hazard Class</b>       | 2.2                                       |
| <b>Hazard Information</b> | Non-Flammable Gas                         |

#### Individual Component Information

|                 | Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group  | Labeling Requirements | Passenger Aircraft or Railcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
|-----------------|----------------------|-----------|--------------------------|----------------|-----------------------|--|--|---------------------------------|
| <b>Oxygen</b>   | Oxygen, compressed   | UN1072    | 2.2                      | Not available  | 2.2; 5.1              | 75 kg or L   | 150 kg                                   | N/A                             |
| <b>Nitrogen</b> | Nitrogen, compressed | UN1066    | 2.2                      | Not applicable | 2.2                   | 75 kg or L   | 150 kg                                   | N/A                             |

#### Canadian Transportation of Dangerous Goods

|                 | Shipping Name        | UN Number | Class    | Packing Group / Risk Group |
|-----------------|----------------------|-----------|----------|----------------------------|
| <b>Oxygen</b>   | Oxygen, compressed   | UN1072    | 2.2; 5.1 | Not applicable             |
| <b>Nitrogen</b> | Nitrogen, compressed | UN1066    | 2.2      | Not applicable             |

## Section 15: Regulatory Information

### U.S. Regulations

|          | CERCLA Sections | SARA 355.30    | SARA 355.40    |
|----------|-----------------|----------------|----------------|
| Oxygen   | Not regulated.  | Not regulated. | Not regulated. |
| Nitrogen | Not regulated.  | Not regulated. | Not regulated. |

### SARA 370.21

|          | Acute | Chronic | Fire | Reactive | Sudden Release |
|----------|-------|---------|------|----------|----------------|
| Oxygen   | No    | No      | Yes  | No       | Yes            |
| Nitrogen | Yes   | No      | No   | No       | Yes            |

### SARA 372.65

|          |                |
|----------|----------------|
| Oxygen   | Not regulated. |
| Nitrogen | Not regulated. |

### OSHA Process Safety

|          |                |
|----------|----------------|
| Oxygen   | Not regulated. |
| Nitrogen | Not regulated. |

### State Regulations

|          | CA Proposition 65 |
|----------|-------------------|
| Oxygen   | Not regulated.    |
| Nitrogen | Not regulated.    |

### Canadian Regulations

|          | WHMIS Classification |
|----------|----------------------|
| Oxygen   | A,C                  |
| Nitrogen | A                    |

### National Inventory Status

|          | US Inventory (TSCA)  | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) |
|----------|----------------------|------------------------------|-----------------------------|
| Oxygen   | Listed on inventory. | Not listed.                  | Not determined.             |
| Nitrogen | Listed on inventory. | Not listed.                  | Listed on inventory.        |

## Section 16: Other Information

|          | NFPA Rating                             |
|----------|---|
| Oxygen   | HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=OX |
| Nitrogen | HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA |

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

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